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ANNOUNCEMENT OF CHANGE OF TITLE

Starting with Volume 26, No. 1, January, 1953, the title of *PRIMITIVE MAN*, the quarterly periodical of the Catholic Anthropological Conference, has been changed to *ANTHROPOLOGICAL QUARTERLY*.

During the last few years there have been a number of indications that the original title is no longer altogether a satisfactory one. It is felt that the new name *ANTHROPOLOGICAL QUARTERLY* indicates more accurately the scope of the journal and that the change is best made upon the completion of twenty-five volumes under the former title.

THE EDITORS

REFLECTIONS ON THE PLAINS INDIANS

ROBERT H. LOWIE

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During the last quarter of a century various scholars have tried to revise earlier conceptions of Plains Indian culture. Some of their efforts are wholly praiseworthy: the excavation of sites referable to historic tribes (Strong, Wedel); the scrutiny of early sources (Mandelbaum, Shimkin, Ewers, et al.); the pan-American approach (Kroeber, Marian Smith). However, much recent discussion strikes me as shoddy and captious. Thus, Wissler is often criticised on indefensible grounds, even though he has sometimes defined or foreshadowed conclusions now trumpeted as great discoveries. This is not to deny the legitimacy of other strictures.

In the following pages I shall first clear Wissler of the charges preferred against him and shall then discuss the nature and origin of Plains culture. For the sake of clarity I shall label the views I reject as "propositions," to which I oppose "counter-propositions."

CRITICISMS OF WISSLER

Proposition 1. Wissler's purely "static" view must be replaced with a "dynamic" one. Specifically, he erred in underestimating the effect of equestrianism.¹

Counter-proposition. In his most important publications Wissler's point of view was thoroughly "dynamic;" he correctly

¹ Frank Raymond Secoy, *Changing Military Patterns in the Great Plains* (New York, 1953). A. L. Kroeber, *Cultural and Natural Areas of Native North America* (University of California Publications in American Archaeology and Ethnology, vol. 38, 1-242, 1939), 78f.

assessed the place of the horse in Plains culture.²

In 1908 he envisaged "a prehistoric uninhabited region in the western part of the Missouri-Saskatchewan area" and was "tempted to assume" that immigrants "from the east and south gradually abandoned the more sedentary life of their ancestors as did the Cheyene and other historical groups."

In 1910 he wrote: "The naive assumption is often made even by those who should know better, that custom is absolute in the culture of American races, whereas those cultures we have actually experienced not only show a considerable range in variability, but also seem to be subject to frequent changes and transitions."

In 1914, in a much quoted article, he declared "that while no important Plains traits except those directly associated with the horse seem to have come into existence [as a result of its advent], the horse is largely responsible for such modifications and realignments as give us the typical Plains culture of the nineteenth century, or which differentiate it from the subtypes in the same area." Further on, he speaks of the reversal of cultural values in the Plains, a phrase echoed by his critics, and ascribes it to the introduction of the horse. A few pages before this statement we read: "it is difficult to see how the vigor and accentuated association of traits forming the typical group and their intense occupancy of the true plains could have been what it was in 1800 without the horse." "The high tide in typical Plains culture seems to have come in the eighteenth and nineteenth centuries. . . . the horse increased the economic prosperity and created individual wealth with certain degrees of luxury and leisure . . ." In unmistakable terms, Wissler regards the horse as a "great inciter of predatory warfare which must have increased the range and intensity of operations," with the result of furthering intertribal contact and diffusion.

² Clark Wissler, *Ethnographical Problems of the Missouri-Saskatchewan Area* (Amer. Anthropol., vol. 10, 197-207, 1908), p. 201. id., *Material Culture of the Blackfoot Indians* (Amer. Mus. Nat. Hist., Anthropological Papers, vol. 5, 1910), p. 167. id., *The Influence of the Horse in the Development of Plains Culture* (Amer. Anthropol., vol. 16, pp. 1-25, 1914), p. 17.

These statements do not differ greatly from Kroeber's view that the "luxury developments" of the nineteenth century were made possible by the horse, nor from Secoy's claim that "the adoption of the horse by the nomad hunters . . . suddenly produced a highly active culture center on the Plains."

I am not aware that Wissler ever repudiated the dynamic approach in principle; as late as 1926 he remarks that "the introduction of the European horse . . . made important changes in culture."³

Proposition 2. Wissler had an "atomistic conception of society," regarding traits as primary cultural facts that "may be quantitatively modified without effecting [sic] their qualitative nature."⁴

Counter-Proposition. The above is the exact opposite of what Wissler professes in the article criticised. He writes: "A type of culture, we should note, is the conception of an associated group of traits, and it is the manner of the association rather than the identity of the traits that determines it." He suggests that the intensity of many traits changed, "giving us a different cultural whole."⁵

Proposition 3. "Blackfoot ethnography has been treated un-historically;" Wissler used early sources only descriptively, or at most in a limited way.⁶

Counter-Proposition. Wissler treated Blackfoot ethnography historically so far as accessible sources permitted. Whether discussing the buffalo pound, clothing, decoration, or ceremonies, he looked for the earliest relevant account and usually dated, so far as possible, subsequent observations. For example, when dealing with age-societies he begins with Maximilian, then cites Maclean, Grinnell, and Curtis. Moreover, he indicates the process

³ Wissler, *The Relation of Nature to Man in Aboriginal America* (New York, 1926), 213.

⁴ Bernard Mishkin, *Rank and Warfare among the Plains Indians* (New York, 1940), 7f.

⁵ Wissler, 1914, pp. 17, 18.

⁶ Oscar Lewis, *The Effects of White Contact upon Blackfoot Culture* (New York, 1942), 5.

by which the grading system developed.⁷ Further, he recognized precisely the factor stressed by Dr. Lewis, declaring that "the influence of the fur trade upon the mode of dressing skins must have been strong"; and, like Lewis, he qualifies the effect of equestrianism by reference to the influence of white traders: "Firearms were soon in the hands of the tribes along the Mississippi and so spread westward. These new weapons must also have brought feelings of power and confidence . . . the trade by which they were received created new demands, new wants, and so stimulated production. Thus, it seems equally probable that the disturbed balances of power from the introduction of guns and the necessity of visiting regions adjacent to trading posts, must have exerted a strong influence upon the periodical ranging of tribes, a change in which the horse was undoubtedly a large factor, but not the only one."⁸

THE HORSE AND PLAINS CULTURE

Proposition 1. "We shall see that the role the horse played in the economic life of the Plains people and the extent to which it influenced their culture cannot be exaggerated." "Horses . . . were indispensable to economic life . . ."⁹

" . . . the Plains culture has been one of the well-developed and characterized cultures of North America only since the taking over of the horse from Europeans, and . . . previously there was no important Plains culture. . ." No sizable group could "have lived permanently off the bison on the open prairie while they and their dogs were dragging their dwellings, furniture, provisions, and children."

"It was necessary to possess horses in numbers before a culture could specialize in bison subsistence."¹⁰

⁷ Wissler, ed., *Societies of the Plains Indians* (New York, 1912-'16), 365 et seq.

⁸ Wissler, 1910, 65; id., 1914, 15f.

⁹ Bernard Mishkin, p. 9, 37f.

¹⁰ A. L. Kroeber, *Cultural and Natural Areas of Native North America* (Univ. of Cal. Pub. in Amer. Arch. and Ethnol., vol. 38, 1939), 76-79, id., *Anthropology* (New York, 1948), 823. W. W. Newcomb, Jr. *A Re-Examination of the Causes of Plains Warfare* (Amer. Anthropol., vol. 52, pp. 317-330), 321.

Counter-Propositions. The role of the horse can be vastly exaggerated. It was dispensable in economic life. The pre-Caucasian Plains culture *was* one of the well-developed and characterized cultures of the continent. It was possible for the Indians to live in fair numbers off the bison at the time of their discovery.

The Querecho of 1541 were horseless, hence the horse was dispensable in their economy. They were culturally as specialized as any of their contemporaries in North America. They were able to unite to the number of, say 800 if not 1000. Since the import of Coronado's accounts seems to have been imperfectly assimilated, it is necessary to quote again from that much-cited source:

"These folks live in tents made of the tanned skins of the cows [buffalo]. They travel around near the cows, killing them for food. . . . That they were very intelligent is evident from the fact that although they conversed by means of signs they made themselves understood so well that there was no need of an interpreter. . . . These folks started off from here next day with a lot of dogs which dragged their possessions." As the Spanish expedition marched northeastward they saw "such great numbers of cows that it already seemed something incredible."

An anonymous fellow-traveler also refers to "such a multitude of cows that they are numberless," roving over "a country as level as the sea" in the area now known as the Staked Plains. "Having proceeded many days through these plains, the travelers came to a settlement of about 200 inhabited houses. The houses were made of the skins of the cows tanned white, like pavilions or army tents. *The maintenance or sustenance of these Indians comes entirely from the cows, because they neither sow nor reap corn* [my italics]. With the skins they make their houses, with the skins they clothe and shoe themselves, of the skins they make rope, and also of the wool; from the sinews they make thread, with which they sew their clothes and also their houses; from the bones they make awls; the dung serves them for wood, because there is nothing else in that country; the stomachs serve them for pitchers and vessels from which they

drink; they live on the flesh; they sometimes eat it half roasted and warmed over the dung, at other times raw; seizing it with their fingers, they pull it out with one hand and with a flint knife in the other they cut off mouthfuls, and thus swallow it half chewed; they eat the fat raw, without warming it; they drink the blood just as it leaves the cows, and at other times after it has run out, cold and raw; *they have no other means of livelihood*" [my italics].

Our authority continues: "These people have dogs like those in this country, except that they are somewhat larger, and they load these dogs like beasts of burden, and make saddles for them like our pack saddles, and they fasten them with their leather thongs, and these make their backs sore on the withers like pack animals. When they go hunting, they load these with their necessities, and when they move—for these Indians are not settled in one place, since they travel wherever the cows move, to support themselves—these dogs carry their houses, and they have the sticks of their houses dragging along tied on to the pack-saddles, besides the load which they carry on top, and the load may be, according to the dog, from 35 to 50 pounds."

A third witness tells us that the Querecho were hostile to another tribe, the Teya; that they exchanged their "cloaks" for the corn of "natives of the [Rio Grande] river;" and that they particularly worshipped the sun.

Coronado's own account in a letter to the king gives the gist of the foregoing statements. Juan Jaramillo likewise reports: "From what was learned of these Indians, all their human needs are supplied by these cows, for they are fed and clothed and shod from these."¹¹

Wedel hits the nail on the head when he suggests that the sharply crystallized Querecho way of life may have been "already rather old" in 1541. "Acquisition of the horse," he adds, ". . . thus gave a last colorful fillip to a mode of life old when the first Conquistadores set foot on the Great Plains." A last colorful fillip! Exactly: as Wissler contends, the coming of the

¹¹ George Parker Winship, translator, *The Journey of Coronado* (New York, 1904), pp. 65f., 193ff., 210f., 213, 230.

horse did not *create* Plains economy, but merely intensified it and perhaps "did more completely diffuse the cultural whole previously formed."¹²

According to Mishkin, on the other hand, "many students" consider the occupation of the Plains by pedestrian natives "incredible."¹³ If this is so, I challenge them to prove that the Querecho were mounted in 1541; that they were not hunters; and that they lived outside the Plains. I ask, on what grounds the plain statements of the Spanish chroniclers are to be dismissed as figments of the imagination.

I suspect that the incredulity of the anonymous host referred to by Mishkin rests on the popular fallacy that aborigines who neither farm nor herd must be very close to, say, *Pithecanthropus*. Accordingly, I offer the following:

Ancillary Counter-Proposition. In the most diverse environments pedestrian groups, many of them pure hunters, have succeeded in annihilating large numbers of big game animals by means of planned collective drives; the horse is wholly dispensable for the purpose.

Two of the early reports from the Woodlands give figures. Champlain, observing between 1615 and 1618, tells us that the Neutrals "in the thirty-eight days that we were there . . . captured one hundred and twenty deer" by driving them into an enclosure. Still more to the point is LaSalle's statement (for ca. 1680) that the buffalo-hunting Miami "sometimes killed as many as two hundred in one day"; they would surround a herd and set fire to the dead grass on all sides except where the killers lay in ambush.¹⁴ So far we are, of course, dealing with partly agricultural tribes. But even the lowly Chipewyan, Hearne assures us, could with good luck impound enough caribou to support many families without more than one or two shifts of

¹² Waldo R. Wedel, *Culture Sequence in the Central Great Plains* (Smithson. Misc. Collections, vol. 100), p. 327. Clark Wissler, *The Influence of the Horse in the Development of Plains Culture* (Amer. Anthropol., vol. 16, 1-25), p. 25.

¹³ Mishkin, 18.

¹⁴ Vernon Kinietz, *The Indians of the Western Great Lakes, 1615-1760* (Ann Arbor, 1940), 20f., 173f.

residence during a winter. The pound was effectively used by the Kutchin and Ingalik for caribou; by the Paviotso, Washo, Nevada Shoshoneans and Navaho for antelope; by the Lapps (according to Tornaeus, in 1672) for reindeer. In California, the Maidu and Yokuts either surrounded herds of deer, elk, and antelope or drove them over cliffs.¹⁵

As Wissler noted, there was a *negative* correlation between use of the horse and impounding (naturally not a 100 per cent correlation). Various aborigines, when already equestrian, chased buffalo on horseback in the summer and impounded them in the winter. In 1854 Denig knew of pounds only among the Cree and Assiniboine, for all the other tribes "are well supplied with horses that can catch the buffalo." As for the Assiniboine: "When a camp of 30 to 60 lodges find themselves deficient in guns and horses they move to a suitable place to build a park and there wait the approach of buffalo . . ." To be sure, Denig speaks of one rider leading the beasts to their destruction. But the younger Henry, writing decades earlier, substitutes for the mounted decoy "a swift-footed runner." What is more, he declares: "Horses are sometimes used to collect and bring in buffalo, but this method is less effectual than the other; besides it frightens the herds and soon causes them to withdraw to a great distance." The three young men sent afoot to lure the beasts did so by setting fire to dung or grass and by this technique "will bring in a herd of several hundred from a great

¹⁵ Cornelius Osgood, Contributions to the Ethnography of the Kutchin (Yale Pub. in Anthr., no. 14, 1936), p. 24ff. id., Ingalik Material Culture (same series, no. 22, 1940), 251. K. Birket-Smith, Contributions to Chipewyan Ethnology (Report of the Thule Exp. 1921-1924, vol. 6, no. 3, Copenhagen, 1930), 19-22. Samuel Hearne, Reise von dem Prinz von Wallis-Fort (Berlin, 1797), 90. W. W. Hill, The Agricultural and Hunting Methods of the Navaho Indians (Yale Pub., no. 18, 1938), p. 145 et seq. A. L. Kroeber, Handbook of the Indians of California (Washington, 1925), 409f., 529, 817. Sarah Winemucca Hopkins, Life among the Paiute (New York, 1883), 55f. Julian H. Steward, Basin-Plateau Aboriginal Sociopolitical Groups (Bureau of American Ethnology, Bull. 120, 1938), 34f. M. A. Castrén, Reiseerinnerungen aus den Jahren 1838-1844 (St. Petersburg, 1853), 44f.

distance."¹⁶

Southeastern Indians, though primarily horticultural, did, in varying degrees, supplement their diet with products of the chase. The "fire-hunt" for deer is attested for Virginia at least as early as 1705, and Calderon (ca. 1675) ascribes the technique to the Timucua. A kind of sportive surround for the capture of a deer was practised by the Natchez in 1758. The Southeastern Caddoans were bison hunters; and Swanton holds that "the buffalo was probably a much more important game animal in prehistoric times than it became later." Catlin has a picture of a Caddo horseman chasing buffalo, but certainly the Caddo who were "much addicted to buffalo hunting" in DeSoto's day were afoot.¹⁷

To sum up, the indispensability of the horse for hunting in the Plains is a pure myth.

Proposition 2. The pre-equestrian Plains Indians were a sorry lot, only incidentally buffalo-hunters, reduced to living in infinitesimal groups, "miserably poor and almost chronically hungry," without elaborate rituals, without the Sun Dance and military societies. Their habits "would not leave room for a specialized culture to center there." Secoy echoes: "The pre-1600 hunting cultures of the Western Plains are not well known, but there seems to be little to distinguish them from the hunting and gathering cultures west and north of the Plains, *except the use of dog transport with the travois, the small leather tipi, and a dependence on the bison as the staple food.* These cultures were too underdeveloped and the culture elements too uniformly diffused to permit one to speak of anything resembling a culture center."¹⁸

¹⁶ Wissler, *Material Culture*, 33 et seq., 47 et seq. E. Th. Denig, *Indian Tribes of the Upper Missouri* (47 Ann. Rept., Bur. Amer. Eth., 1930), 530 et seq. Elliot Coues, *The Manuscript Journals of Alexander Henry and David Thompson, 1799-1814* (New York, 1897), 518ff.

¹⁷ J. R. Swanton, *Source Material on the History and Ethnology of the Caddo Indians* (BAE-Bull. 132, 1942), 31, 136ff. id., *The Indians of the Southeastern United States* (same series, Bull. 137, 1946), 317ff.

¹⁸ Kroeber, *Cultural and Natural Areas*, 76 et seq. Frank Raymond Secoy, 87. The italics are mine.

Counter-Proposition. Before their discovery the Plains Indians were capable of living in sizable groups, reasonably well off, with a highly specialized culture, sharply distinguished from that of neighboring populations. Of their religion and ritual we know nothing, a fact that does not prove that there was nothing to know, though admittedly in 1541 the Querecho probably had neither the Sun Dance nor military societies. The matter of "climax" or "culture center," interesting in itself, is irrelevant.

So far as population figures are concerned, Dr. Lewis points out that in the first half of the eighteenth century unmounted Piegan were able to muster 350 warriors against the Shoshone. He calculates the total number of Indians then gathered at one spot for a number of days as 1500.¹⁹ This indication is supported by the much earlier Spanish evidence already cited. A settlement of 200 inhabited dwellings suggests, say, 1000 people, certainly not fewer than 800.

Nothing in the Spanish chronicles suggests for the Querecho the poverty-stricken condition of some Basin Indians. Their essential needs were supplied by the abundant buffalo herds; further, they supplemented their resources by trade with sedentary agriculturists.

Indeed, the phrase I italicize from Secoy's monograph seems extraordinary. Translated into concrete terms, it seems to say: Unlike the Plateau and Basin peoples, the Plains Indians of 1541 neither fished nor gathered roots and seeds; unlike them, they did not largely subsist on rabbits and other small game, but on the chase of a large herd animal that furnished materials for tent covers, dress, firemaking; they used dogs for traction, whereas even the Nez Perce apparently never packed dogs and lacked the travois.²⁰ In other words, the ecological set-up was utterly different from that known or possible in the Plateau and the Basin, yet Plains culture was hardly distinguishable from that of these two regions to the west! Comment is superfluous.

¹⁹ Oscar Lewis, 37, 47.

²⁰ Herbert J. Spinden, *The Nez Percé Indians* (Memoirs, Amer. Anthropological Assoc., vol. 2, pt. 3, 1908), 224.

Proposition 3. The horse transformed Plains Indian hunters into "non-parasitic" pastoralists comparable to the Tungus.²¹

Counter-Proposition. Though it is impossible to dogmatize about definitions, the one offered above seems unserviceable and contrary to established usage. Jochelson, who preceded Mishkin in the comparison of Plains Indians with the Tungus, explicitly treats both groups as *hunters* whose mounts merely facilitate the chase. The pastoralists commonly so called migrate primarily in search of pastures for their stock; the Plains Indians moved primarily in pursuit of buffalo.

Proposition 4. After getting horses, the Pawnee, hitherto farmers, took up intensive buffalo-hunting, "attempted to compromise between the two types of life and apparently failed in both."²²

Counter-Proposition. The Pawnee experienced both cultural losses and gains as a consequence of Caucasian contact. How did failure result from a compromise between sedentary life and nomadism? Wedel again hits the nail on the head when he writes that the Pawnee had two staples "very nearly equally stressed" and that "to this combination of hunting with horticultural life . . . much of the richness of Pawnee culture is due."²³

In the first place, were the prehistoric Pawnee wholly agricultural? In all probability they resembled the historic Caddoans of the Southeast when first described by whites, i.e., they were predominantly farmers, yet by no means averse to hunting and fishing. And since the nearest Southeasterners, proportionately to their proximity to the Plains, were active buffalo hunters, it is unbelievable that any of them, on moving into the heart of the buffalo country, suddenly evinced a repugnance to the buffalo chase, but—say 200 years later—under the stimulus of equestrianism took to hunting again. In all probability the Caddoans intensified prior hunting as they pressed, or were pressed, westward. In short, the horse hardly ushered in a com-

²¹ Mishkin, 5-23.

²² Wm. D. Strong, An Introduction to Nebraska Archeology (Smithsonian Misc. Coll., vol. 93, no. 10, 1935), 55-69, 298f.

²³ Waldo R. Wedel, An Introduction to Pawnee Archeology (Bureau of Amer. Eth. Bull. 112, 1936) 57, 98.

plete reversal of economic practices. That greater mobility led to a decline in ceramics may be taken as demonstrated; and we must accept the concrete findings (Strong and Wedel) concerning the greater richness of artifacts in protohistoric when compared with later Pawnee sites. On the other hand, there were the compensatory innovations due to Caucasian contacts. In any case, the exceptionally elaborate ceremonialism, revealed through and by Murie about 1900 and later, strongly argues against a "submergence" of the total culture, such "submergence" being very different from the biological or political recession of the culture-bearers. *That* was real enough as a result of disease and other ills subsequent to the opening of an emigrant trail through Pawnee territory, which "left the people less able to defend themselves against the continuous attacks of their enemies, the Sioux."²⁴

Proposition 5. The Southern Siouans, emigrating from east of the Mississippi, sank from agricultural to seminomadic or nomadic status after adopting the horse.

Counter-Proposition. Coming from the Woodlands, the Southern Siouans shared the Eastern economy, which was predominantly *mixed*, especially in the prairie borderland.

Except for the Iroquoians the natives in the northern half of the Woodlands were either desultory cultivators (Penobscot) or paid about equal attention to farming and other economic pursuits (around the site of New York City). In the section of crucial interest for our argument, the Ojibwa and Dakota can be reckoned farmers only by courtesy. Even among the southern Ojibwa "much of the food and the greater part of the clothing . . . were obtained by hunting and fishing." As for the Eastern Dakota, Radisson and Grosseliers, the first whites in their country (1660), call them "the Nation of the beefe," declaring that they "sow corne but their harvest is small." Not quite two centuries later, Pond describes a similar condition. In most villages some families "raised a very little corn," but probably not "enough annually . . . to feed the whole population

²⁴ A. C. Fletcher, art. "Pawnee" (Handbook of American Indians North of Mexico, Washington, 1910), vol. 2, p. 216.

more than a week or two." The typical Dakota Indian he knew was "a hunter, descended from a long line of hunters, trained to hunting by precept and example." Hardly a spectacular "reversal of cultural values" was needed to transform a 98% hunting economy into an all-hunting economy.²⁵

Of the Menomini, Skinner writes: "Fishing and especially hunting supplied the major portion of their diet." In 1710 the Potawatomi did raise "an abundance of very fine corn," but "every autumn the men, women, and children went into the woods for the winter hunting and did not return until spring." Still more enlightening are the early accounts of the Miami and Illinois. Notwithstanding a predilection for corn, the Miami "communally hunted buffalo, leaving their villages in the autumn, with only a few old people remaining in charge." In fact, they and the Illinois occupied their settlements only from the end of April until October. In other words, *the economy of the region from which the Southern Siouans presumably emigrated was the economy characteristic of them in their new homes.* So far as I can see, the Ponca represent the only instance of a Southern Siouan tribe that definitely abandoned this pattern, turned into pure hunters, and had to obtain corn by barter.²⁶

Skinner recognized the close cultural affinity of the Southern Siouans with the Central Algonkians, and his summary of the essential facts has a distinctly "dynamical" flavor: the Winnebago and the late Ponca represented two extremes, with the Iowa,

²⁵ Regina Flannery, *An Analysis of Coastal Algonquian Culture* (The Catholic University of America, Anthropological Series, no. 7, 1939), 7-9. Frank G. Speck, *Penobscot Man* (Philadelphia, 1940), 91. Wm. Jones, *Central Algonkians* (Annual Archaeological Report for 1905, Toronto, 1906) p. 139. Scudder Mekeel, *A Short History of the Teton-Dakota* (North Dakota Historical Quarterly, vol. 10, 1943), 147f. Samuel Wm. Pond, *The Dakotas or Sioux in Minnesota as They Were in 1834* (Collections, Minnesota Historical Society, vol. 12, 1908, 319-501), 342ff., 382.

²⁶ Kinietz, 171ff., 235ff., 313, 407f. Alanson Skinner, *Material Culture of the Menomini* (Indian Notes and Monographs, New York, 1921), 173. Alice C. Fletcher and Francis La Flesche, *The Omaha Tribe* (27th Annual Report of the Bureau of American Ethnology, 1911), 45.

Oto, and Omaha intermediate.²⁷

Proposition 6. "The majority of later typical Northern Plains tribes were once agricultural; the Cheyenne . . . , the Teton Dakota, . . . perhaps the Arapaho and Atsina, possibly the Crow and others."²⁸

Counter-Proposition. The majority of the typical Northern Plains tribes are *not* known ever to have been agricultural.

If we adopt Wissler's classification—and it was he who popularized the notion of "typical" non-agricultural Plains Indians—the list would include the Assiniboiné, Blackfoot, Crow, Atsina (Gros Ventre), Plains Cree, Plains Ojibwa, Sarsi, Teton Dakota. It is reasonable enough to add the Cheyenne; and to oblige Newcomb we may even, for the sake of argument, include the Arapaho. I do not list the Kiowa, whose claims to a relatively permanent habitat in the north are untenable.²⁹ There are thus ten tribes to be examined with reference to Newcomb's assertion; a majority would be at least six.

Well, there is not a tittle of evidence that the Assiniboiné, Blackfoot, Atsina, Plains Cree, Plains Ojibwa, or Sarsi were ever agricultural. The remarkable metamorphosis of the Cree was from fishing and hunting of the northeastern type to buffalo-hunting. Incidentally, whereas the fur-trade played a great role in this transformation, the horse was far less significant. As late as 1865 the Cree had few horses, still using the dog-travois. They were especially adept at impounding, a practice we have seen to be negatively correlated with wealth in horses.³⁰

Though the identification of Strong's Cheyenne site in North Dakota is admittedly not adequately documented, there is evi-

²⁷ Skinner, *Ethnology of the Loway Indians* (Bulletin, Publications, Museum of the City of Milwaukee, vol. 5, no. 4, 1926), p. 190f.

²⁸ W. W. Newcomb, Jr., *A Re-Examination of the Causes of Plains Warfare* (American Anthropologist, vol. 52, pp. 317-330), 321.

²⁹ Clark Wissler, *North American Indians of the Plains* (New York, 1920), 19. R. H. Lowie, *The Relations between the Kiowa and the Crow Indians* (Société Suisse des Américanistes, Bulletin 7, Geneva, 1953, 1-5).

³⁰ David G. Mandelbaum, *The Plains Cree* (American Museum of Natural History, Anthropological Papers, vol. 37, 1940), 169-197.

dence that the Cheyenne were once semisedentary corn-growers, though "*errans la plus grande partie de l'année*."³¹ The data for the Dakota have already been cited; their ancestors seem to have been rather less agricultural than the Cheyenne. As for the Crow, there are reasonable grounds for Newcomb's assumption. They are very closely connected with the Hidatsa linguistically; they certainly applied the horticultural technique to growing their sacred tobacco; and along the probable route of Crow seceders entering Montana, archaeologists have found evidence of pottery remains and of earth-lodge construction. If the Crow left at a time when the parental tribe was already more or less sedentary they would naturally carry with them elements of their horticultural tradition. About Arapaho farming nothing is known. In her valuable monograph Sister Hilger makes me figure as one of its champions, but what I actually say in the passage she refers to is merely that the Arapaho were in cultural contact with the Village tribes, not that they shared agricultural skills.³²

Thus out of ten tribes, at the most three—the Cheyenne, the Dakota, and the Crow,—were ever in any sense farmers; and the most that can be asserted in the strongest of these cases is that the Cheyenne once shared the mixed economy of the Prairie region.

THE ORIGIN OF THE PLAINS CULTURE

As stated, Wissler did not deny the influence of the horse, let alone of Caucasian contact, but expressly emphasized it. He denied that the horse had created the economy *sui generis* found among the Querecho in 1541; and in this he was 100% right. No Woodland immigrants, whether before or after American aboriginal equestrianism, introduced buffalo-hunting with the correlates pictured by Coronado. They merely adopted the crucial

³¹ Annie Heloise Abel, *Tabeau's Narrative of Loisel's Expedition* (Norman, Okla., 1939), 151f. Wm. D. Strong, *From History to Prehistory in the Northern Great Plains* (Essays in Historical Anthropology of North America, Smithsonian Miscellaneous Collections, vol. 100, 1940), 370-376.

³² Sister M. I. Hilger, *Arapaho Child Life and Its Cultural Background* (Bureau of American Ethnology, Bulletin 148, 1952), 2.

adaptations perfected by older residents in the area. The same holds, of course, for the Shoshone, the Nez Percé, and any other invaders from elsewhere. Linton has aptly described this process of assimilation in general terms.³³

Inevitably the newcomers did not at once drop their traditional ways: the Cree, e.g., were still canoeing in 1772 and never wholly gave up fishing.³⁴ Hence in part the numerous tribal variations within the Plains. Further, since the contacts that followed migration did not imply complete passiveness on the part of the invaders, various features were doubtless not only carried into the area, but diffused to the older residents. Thus, my informants trace to the Nez Perce one form of Crow hair-dress, and the Blackfoot prepared camas in Nez Perce fashion.

To revert to the problem of Caucasian determinants of Plains Indian culture as found in the eighteenth century and later, we note that various traits of that culture can indeed be traced to an Eastern source, but they occurred in the East *before* the native had been affected either by the fur trade or by equestrianism. Let us consider three aspects of historic Plains Indian culture that enthusiastic champions of a "dynamic" outlook regard as recent outgrowths of European contact,—marked polygyny, the military complex, and the police institution.

(1) Dr. Lewis has argued with some plausibility that polygyny was greatly stimulated by the fur trade "because a man required more wives to tan the skins demanded by the whites." Specifically, this is said to apply to the Blackfoot: in 1787 three or four wives were common, but the maximum was six; by 1833 the top figure had risen to eight; about 1855, according to one of Lewis's informants, her great-grandfather had twenty spouses; in the 1870's some Blackfoot had twenty or thirty wives. These figures are not convincing. Blackfoot chiefs were not African monarchs, and it is difficult to imagine demographic conditions in the Plains that could permit any man, let alone several men simultaneously, to have twenty and more wives. The total

³³ Ralph Linton, *The Study of Man* (New York, 1936), 384f.

³⁴ Mandelbaum, 179, 200.

population of the Blackfoot in 1862 was set at 6,720.³⁵ Assuming that 1200 were adult men, can we imagine that, say 5 of them, were allowed to arrogate to themselves 100 women? Moreover, Wissler's data were flatly contradictory. In 1906 he must have met a number of men who remembered the gay 1870's, but he condenses native testimony into the statement that, while legal restrictions were wanting, "many kept but a single wife and very few indeed ventured to support as many as five."³⁶

Assuming, however, that larger figures are admissible, it does not follow that they resulted from the alleged causes, which hardly operated among the Illinois and Miami of 1700. Yet La Salle tells us that an Illinois might have as many as ten or twelve wives; and from Deliette we learn that a good hunter might simultaneously be married to his first wife's sisters, aunts, or nieces. Incidentally, we may reasonably conjecture that the "aunts" were paternal, and the "nieces", brother's daughters; on this assumption, these Algonkian tribes of ca. 1700 resembled the Omaha in recruiting supplementary mates from the first wife's patrilineage.³⁷

In short, equestrianism and the fur trade are not the necessary antecedents of polygynous extravagance.

(2) Drs. Lewis and Secoy have collected interesting material on the changes in warfare effected by white contacts; and Dr. Mishkin has, probably with justice, criticised statements of mine underestimating the economic motive in historic Plains fighting. This line of criticism, however, does not apply to Wissler, who recognized the influence of the horse and of firearms on both tactics and motivation. Thus, he explicitly considers the horse "a great inciter of predatory warfare" and suggests secondary effects ensuing therefrom.³⁸

What Wissler denied, on this as on other points, was the fundamentally *creative* potency of the innovations. For the sake

³⁵ Lewis, 38ff. John R. Swanton, *The Indian Tribes of North America* (Bureau of American Ethnology, Bulletin 145, 1952), 397.

³⁶ Wissler, *The Social Life of the Blackfoot Indians* (American Museum of Natural History, Anthropological Papers, vol. 7, 1911), 11, 22 et seq.

³⁷ Kinietz, 204.

³⁸ Wissler, *The Influence of the Horse . . .*, 17.

of clarity I shall define the issue as drastically as possible. Did the novel accretions to Plains culture make militarists out of pacifists? Was the small warparty as a regular phenomenon motivated by the craving for the enemy's horses?³⁹ The answer to relevant questions lies again in the early sources on the tribes east of the Mississippi.

When discovered, the Eastern tribes were preponderantly warlike; and specific features of theirs paralleled the well-known martial customs of the later Plains area. In ca. 1710 large Illinois parties would attack Pawnee villages, killing and scalping the men and abducting women and children. In that period horses were still rare in this territory and could not have been the objective of a large-scale raid; white trade goods were sold by the Prairie people to the Pawnee, not vice versa. In addition to the major expeditions, however, there were small warparties systematically sent out, ordinarily from February on. The following typical Plains traits appear: bird medicine bundles, the revenge motive, the novice's menial tasks, the coup, the leader's responsibility for a follower's death, the dispatching of two scouts. The public recital of one's exploits was observed by Charlevoix in the 1720's. Strongly suggestive is Deliette's observation that if three Miami or Illinois pursue a foeman, "the first who can touch him with some missile is the one to whom the prisoner belongs, even if another should lay hands on him first." Raudot mentions a stick as well as a rock as the apparent equivalent of the Plains coup-stick. Cadillac, who knew the Ottawa from 1694-98, records that a war chief was inspired to go on a party by a dream or vision.⁴⁰

The sources on the early Southeastern tribes provide corroboratory testimony. The common number of warriors on a party was "only from twenty to forty" (Adair). The leader, carrying his medicine, was responsible for deaths, hence "the great fear of even a slight loss on the part of the attackers." A Natchez would publicly recite his feats of valor. In this area special importance attached to scalping as a prestige symbol, and the

³⁹ Lewis, 46-59.

⁴⁰ Lewis, 46-59. Kinietz, 86, 88, 195-202, 251, 400-406.

early motives for fighting were revenge and social advancement. The Powhatan "seldome make warrs for lands or goods" (Strachey); later to be sure, horse capture became "one of the main objectives" among the Creek. The equivalent of Plains "heraldry" appears in the Choctaw usage of sticking feathers into a head ornament, one for each enemy slain.⁴¹

Not one of the significant elements mentioned was thus created by equestrianism and the white trader. When Eastern tribes migrated west, they naturally brought such features with them. The modifications resulting from white introductions were interesting, but not vital, for the essence of the Plains war-complex existed before the discovery, even if outside the Plains area. Of course, the horse furnished a genuine, economic motive that by its very existence limited the scope of older stimuli, but certainly it did not oust them. Further, contrary to Mishkin's contentions, the capture of horses was far from being altogether profitable for the captor. The general emphasis on disposal of loot to less favored tribesmen, among the Crow the moral claims of paternal kin upon part of the booty, would appreciably reduce the net economic benefit. As Lewis correctly remarks, "young unmarried [Blackfoot] men gave most of their captured horses to older relatives;" and according to Mandelbaum, "of ten or twelve stolen animals, a [Cree] man would keep only one or two for himself."⁴²

(3) In his enthusiasm for the creative potentialities of equestrianism, Dr. Secoy proclaims: "It was inevitable that new techniques of social coordination should develop, suited to the large-scale, mounted bison hunt. Thus, it was necessary, by various means, to control the hunting activities of the individual in order to prevent a bison herd from being stampeded away from a camp, and to enable all of the hunters to attack the herd in

⁴¹ Swanton, *Social Organization and Social Usages of the Indians of the Creek Confederacy* (42nd Annual Report, Bureau of American Ethnology, 23-472, 1928) 405 et seq.; id., *Source Material on the History and Ethnology of the Caddo Indians* (Bureau of American Ethnology, Bulletin 132), 184 et seq.; id., *The Indians of the Southeastern United States*, 686 et seq.

⁴² Mishkin, 42, 52. Lewis, 57. Mandelbaum, 298.

concert."⁴³ In other words, this author considers the buffalo police a direct and inevitable consequence of the use of the horse in the chase.

Now, we have already seen that the horse was *not* indispensable for large-scale drives. Further, the earliest references to the buffalo police and "soldier-killing" are not to mounted Indians nor to Plains Indians. In 1680 Hennepin, as an eye witness, circumstantially describes the sudden irruption of fifteen or sixteen Santee guards who upset the lodge of his hosts and confiscated "all their Victuals, and what Bears-Oil they could find in their Bladders, or elsewhere." One of the intruders explained to Hennepin "that those who had given us Victuals, had done basely to go and forestal the others in the Chase" and that it was lawful "to plunder them since they had been the cause that the Bulls were all run away before the Nation could get together, which was a great injury to the Publick: For when they all met, they make a great slaughter amongst the Bulls; for they surround them so on every side, that 'tis impossible for them to escape."⁴⁴ Not later than 1710 Raudot or Deliette recorded the following data on the Illinois: "For their hunts of summer and winter they use large canoes of wood in which they carry all their baggage. One of these canoes would not dare separate from the mass, for immediately some guard canoes would run after it and break it and all that was in it. Likewise, one of these savages would not dare separate from the mass to go and hunt when they are on land, for immediately a band of young men who are guards would run after him to make him return, break his arms, and tear off all that he had on him. These savages have established this kind of law. . . . because those who go in advance would cause the animals to flee while killing only a very few of them, which would oblige them to go much farther to find some." Skinner cites parallel data from Marston for the Sauk and Fox, whose police regulated travel by water or land, destroying an offender's canoe and goods.

⁴³ Secoy, 88.

⁴⁴ L. Hennepin, *A New Discovery of a Vast Country in America* . . . (London, 1698), 187f.

The Dakota whom Carver met in central Minnesota were still canoeing rather than riding and he found only a few horses at Prairie du Chien.⁴⁵

To sum up, the buffalo police was *not* a consequence of hunting on horseback.

CONCLUSION

Discussion of a particular area naturally merges in the discussion of what a "culture area" at bottom is. In 1916 Sapir⁴⁶ correctly recognized that the areas then established by Americanists were nothing but convenient classificatory devices and of unequal historic depth. In the Plains he detected a special affinity with the Woodlands, though he preferred to define the culture as a blend of Woodland, Southeastern, Plateau, "and possibly" Southwestern features. He emphasized that the several criteria of an area need not be organically linked and that the different rates of diffusion for distinct elements inevitably led to a "ragged edge" of distribution at the margins. Sapir cannot be fairly criticised for accepting the differentiae then laid down by the specialists of the area, for whom such non-ecological features as the Sun Dance and the camp circle were obvious ingredients of the complex.

Later writers laid a sound foundation by recognizing that in a geographical grouping ecology must overshadow all other factors; unfortunately they allowed themselves to be intrigued with gingerbread architectural embellishments that threaten to bring down the entire structure. Thus, Herskovits, who offers some excellent remarks on the nature of the concept under discussion, and in fact explicitly suggests the ecological basis of the groupings, goes on to treat discontinuous African territories as sections of a single area because of a conjectural relationship in the past. This evidently involves a contradiction in terms. Such sections

⁴⁵ Kinetz, 408. Francis Haines, *The Northward Spread of Horses among the Plains Indians* (Amer. Anthropol., vol. 40, pp. 429-437, 1938), 434. Skinner, *Social Life and Ceremonial Bundles of the Menomini Indians* (Amer. Mus., Anthropol. Papers, vol. 13, p. 26, 1913).

⁴⁶ Edward Sapir, *Selected Writings* (Berkeley, 1949), 425-430.

may be part of a *kulturkreis* but by definition are not parts of a single area.⁴⁷

Wissler and Kroeber greatly contributed to the problem by stressing ecology, witness such labels as "salmon area," but were led astray, the one by toying with the notion of "culture center," the other by his search for "climax,"—interesting but irrelevant matters.⁴⁸

To begin with Wissler, notwithstanding the admitted arbitrariness of his divisions, he insists on reifying them when he speaks of "typical" tribes whose habitat coincides with the geographical position of the culture center. Thus he arrives at the strange result of first defining "typical" Plains Indians as buffalo-hunting tent-dwellers who lack pottery, farming, basketry, and fixed habitations and then including as merely a variety of the species, so to speak, the sedentary farmers, basket-makers, and potters. As though these were traits of subordinate importance! Had he consistently clung to the Querecho model that he himself at times thrust into the foreground, he would have avoided this difficulty.

Kroeber's emphasis on "climax" must be rejected, because in *classification* what counts is not richness of content, but distinctiveness. Thus, the biologist treats Protozoa as a phylum on a par with Chordata; he does not say that as one-celled organisms they are sub-phyletic and should be treated as outliers of Sponges. At this point it is helpful to mention Kroeber's criticism of Boas. Boas, denying reality to the conventional culture areas, had maintained that classification of cultures by social organization, material life, religion, etc. would result in so many diverse groupings.⁴⁹ Kroeber objects that as a rule an "unusually rich development" in one line coincides with peaks in other lines of achievement.⁵⁰ I venture to believe that he has misconstrued Boas's meaning, which may be illustrated as follows.

⁴⁷ Melville J. Herskovits, *Man and his Works* (New York, 1948), 183-200.

⁴⁸ Wissler, *The American Indian* (New York, 1922), esp., 218ff., 257-259, 372.

⁴⁹ Franz Boas, ed., *General Anthropology* (New York, 1938), 671.

⁵⁰ Kroeber, 1939, 4ff., 76-80.

As regards sustenance there is great similarity from southern Alberta to Texas; but with respect to, say, kinship terminology the territory is split up into several quite distinct regional types. Correspondingly, in this respect the buffalo-hunting Crow resemble the Hopi more than they do such patrilineal fellow-Siouans and fellow-Plainsmen as the Omaha or the clanless Kiowa. The matter of "richness" is beside the point.

As regards the conventional Plains culture area, no thorough inquirer has failed to recognize its arbitrariness. Kroeber, e.g., concedes the "noticeable resemblance" of the Southern Siouan culture to that of Wisconsin. Wissler has recourse to the dichotomy into "typical" and less typical tribes. Mekeel aptly remarks that uniformity in buffalo-hunting and in the environment "led to an implicit conviction in a fundamental cultural unity which, actually, does not exist in the area."⁵¹ Long before him Alanson Skinner had repeatedly shown that the Southern Siouans are culturally akin to the Winnebago and to the Algonkians of the western "Woodlands."⁵² Thus, the Winnebago are incomparably closer to the Omaha than these are to the Blackfoot. This presents no enigma, of course, if the Omaha were relatively recent emigrants from Woodland-Prairie country.

The question remains whether the concept of the "culture area" can be salvaged for any useful purpose. In my opinion it can be given meaning if we accept Kroeber's and Wissler's ecological emphasis and prune away their treatment of irrelevancies. For one thing, we must get rid of the notion that an ethnographer's duty is to divide the globe into so many neatly separated "areas." In view of the realities to be dealt with, Kroeber has pointed out that the difficulties could be met only by "some system of shading or tint variation," but that mechanically the project would prove impracticable. In my opinion a practical and worthwhile procedure would be to subsume under one geographical category—suggested by lettering on a map, but not circumscribed

⁵¹ Scudder Mekeel, *A Short History of the Teton-Dakota* (North Dakota Historical Quarterly, vol. X, no. 3, July 1943, 137-205), 141.

⁵² Alanson Skinner, *Material Culture of the Menomini* (Indian Notes and Monographs, New York, 1921), 277.

by boundary lines—every ecological unit, giving only quite subordinate weight to elements remotely correlated, or not correlated at all, with the environment. For purely practical reasons our groupings should not be so impermanent as to demand constant revision. The Ghost Dance was very important to many Plains tribes in 1890, but to class them with the Basin tribes for that reason and then reclassify them when the movement collapsed would hardly prove serviceable.

On the other hand, the way in which populations have adapted themselves to a geographical environment and in which subsequent immigrants have assimilated the fundamental adaptations does furnish a useful basis for grouping. We do not know how far the Querecho type of culture extended in 1541, we do not know what sort of social structure or supernaturalism was associated with the traits recorded by Coronado. But we do know that it was a culture *sui generis*. Whenever and wherever other tribes in adjoining regions shared unequivocal dependence on buffalo, being "fed and clothed and shod from these," they helped to constitute a unique type of culture, and since it was concentrated geographically, a *culture area*.

MOHAVE FISHING EQUIPMENT AND METHODS¹

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Although not teeming with fish the Colorado river provided a fairly good supply of this food resource for the Mohave Indians and other tribes living along its bank. Its annual flooding, coming in May and falling away in midsummer, furnished additional fishing waters. The return of the river to its normal channel left an extensive area of small ponds, lakes and sloughs, each well-stocked with fish.

Of the species of fishes supplied by the Colorado, only four were regularly taken and eaten by the Mohave. These were: the "Colorado salmon" or squaw fish (*Ptychocheilus lucius*), three feet long and weighing up to eighty pounds; the bony tail (*Gila elegans*), less than one foot long; the mullet (*Mugil cephalus*), a moderate-sized species and a good food fish; and the native humpback sucker (*Xyrauchen texanus*), eighteen to twenty-four inches long, soft of flesh and full of bones, often weighing seven or eight pounds. Though these fish, as a group were rather poor eating, they were regarded as good food by the Mohave because they had been in the river since the mythical "First-Times."

The various fish (*atši*) were brought forth by Mastamho, the Culture Hero, at the same time that he created the Colorado river.² Mastamho plunged a stick into the earth four times and each time he drew it out a new species appeared. First came

¹ The ethnographic information was obtained at Needles, California and Parker, Arizona in 1946. The fieldwork was sponsored by a grant from the Department of Anthropology, University of California. The fishing equipment described is in the National Museum and was examined in 1952 under a grant-in-aid from the Pacific Coast Committee for the Humanities, American Council of Learned Societies.

² A. L. Kroeber, Seven Mohave Myths University of California Anthropological Records, vol. 11, no. 1, 1948, p. 54.

the bony tail (*atsi mikulye*), then the Colorado salmon (*atsi yonyeme*), next the mullet (*atsi hane*) and finally the sucker (*atsi tshenap*). These were for the Mohave and the Culture Hero taught the people how to catch them.

Other smaller fishes, seldom more than a few inches long, were present but no special effort was made to capture them. After Caucasian contact yellow catfish appeared in great numbers. The catfish were a great mystery to the Mohave and because they had not been introduced by Mastamho they were thought to be poisonous and were avoided.³ This abstention reflects the deep-rooted Mohave suspicion and fear of new foods. They were averse to eating anything strange as it might bring sickness. Carp, another introduced species, was also shunned.

The Mohave employed several different methods of procuring fish: netting, dragging, scooping, impounding, shooting, angling, and capturing by hand. Neither the fish spear nor the harpoon was used, possibly because the waters were too turbid with sediment for their efficient employment. The drugging or stupefying of fish was another procedure neglected by the Mohave. This method would have been fairly successful in the relatively still waters of land-locked overflow ponds with their high concentration of fish. Suitable poison- or narcotic-bearing plants were available so the absence of this practice cannot be attributed directly to environmental restrictions. No club was specially made for the stunning or killing of captured fish; any convenient rock or stick was picked up and used when needed.

Fish were taken mostly with nets. A small dip net (*suaku*) was regularly employed in river fishing, particularly when the Colorado was high and muddy. This was a small bean-fiber bag of fine two-inch mesh webbing, four feet long, with two ten-foot stick handles fastened one on either side. With this piece of equipment, the fisherman stood out in the current or on a rock with his net spread or allowing it to float on the swift current and open up. As the fish could not be seen, the fisherman alternately lowered and raised his net seeking to catch at a chance. Watermelon seeds or crushed maize kernels were

³ C. L. McNichols, *Crazy Weather*, New York, 1944, p. 48.

occasionally dropped into the water to attract the quarry. In dipping up a fish, the pole handles were clapped together to close the mouth so the catch could not wriggle out.

A much larger net (*rhulja*) was also used. This was of rectangular form, 20 to 30 feet long and 4 to 6 high, with a six-inch mesh. It was woven of the soft inner bark of the willow, stiffened with vertical rods of arrowweed at the top and bottom. Stones attached at the base by a simple hitch weighted it down. A pole was fastened at each side so that it could be held vertically by two men who dragged it through shallow water. Other men walked through the water frightening fish into the net by beating the surface with poles. After the net was pulled for some distance the end poles were thrust into the soft mud. Fishing in this manner was rather easy and profitable and it was often possible to catch all the large fish in a pond. On occasion, several such nets were worked together side by side.

Though generally dragged, the large net was sometimes set in the river and fish became entangled in it. This could be done effectively when the waters were murky. Colorado salmon which blundered into the net were dragged out by hand whereas the smaller humped-backs and the like were gilled. When a good-sized fish was captured the net was often torn almost to pieces and had to undergo extensive repairs.

Nets were regularly woven by men though a few women made them also. The manufacture of a large specimen was a long and tedious process, often taking two months or more to complete. Fish-net twine was twisted on the thigh and wound on a crude shuttle made from two slender arrowweed stems, held about one-half inch apart by a fibre spreader near each end and bound around with fine string. The common netting knot (*ihulja*) was used. As no measure was employed, the mesh was somewhat uneven.

Another method of capturing fish in mass was by the use of a brushwood drag. This was a huge mat or fence of interlaced willow branches and arrowweed stalks. It was placed across the entire breadth of a pond or slough at its lower end and pushed forward by twenty to thirty men. A vertical face was

maintained so as to drive the fish into shallow water or onto the bank at the upper end where they could be readily taken by hand. This was a group effort and the day's catch was divided equally among all the men. The drag was a purely temporary affair made for the occasion and thrown away immediately afterward.

Similar in function to the dip net was the huge fish scoop (*kwithata*). Elliptical in outline, it measured two by six feet and fifteen to thirty inches in depth. The scoop was made of peeled willow twigs held together by widely-spaced rows of twining with wefts of twisted willow bark. A four-foot handle was fastened across its short axis. Fish, driven forward by a line of waders, were quickly lifted out of the water with scoops in the hands of waiting men. A crude conical basket of unpeeled willow twigs slung on the back received the catch as it was hauled out. The scoop was also used by lone fishermen who pushed it submerged upstream, dipping up fish as they went.

Fish pounds were constructed in the shallow waters of the shelving river bank. A semicircular wall was built by sticking arrowweed or willow boughs into the soft bottom mud. Such an enclosure measured twenty to thirty feet across and three to four high, reaching to water level or above. A gap of about two feet was left in the center; this could be closed by simply adding sticks. The purpose of this crude pen was to obstruct the passage of fish or to impound them so that they could not get away. Crushed watermelon seeds and maize kernels were scattered on the surface of the water to entice fish into the enclosure. Once inside they were caught by hand or scooped out with a dip net.

Angling with hook and line was undertaken sporadically and seems more often to have been done by boys or old men with leisure time. Certainly it was the least effective way if any quantity of fish was desired. The hook was of simple form, a spine of the barrel cactus (*Echinocactus wislizeni*) recurved by

⁴ The making of cactus-spine fishhooks is described in E. Palmer, *Fish-Hooks of the Mohave Indians*, *American Naturalist*, vol. 12, 1878, p. 403.

softening in water and heating.⁴ A hook measured one and one-half to two inches long and one and one-eighth inches across. It was not barbed. The end of the line, a two-ply twisted cord of bean fiber, was laid parallel to the shank and bound to it by a wrapping of bast fiber. This was a hand line and was kept wound on a rude reel, 30 inches long, made from two slender pieces of arrowweed tied together with spreaders between. With a worm obtained from around the roots of an arrowweed plant, the hook was allowed to drift with the current eventually submerging. No weight or sinker was used. It is not clear whether a line was provided with a float such as that of the Maricopa.⁵ The native fish did not nibble the bait but bolted it, hook and all, and were killed by the wounds made in their gills. This unbarbed cactus-spine would have been of little or no use in catching fish that nibbled.

Large fish at or near the surface were now and then shot at with arrows. If the stalks of plants fringing the river bank were observed moving sporadically or if a commotion was noted in shallow water, signs that a large fish was feeding, an arrow was released. Or, a bowman might wait patiently until the foraging fish approached the surface before taking a pot-shot. Once transfixed, a fish rolled over to shake free of the arrow or floated to the surface dead. The man jumped in, seized it and heaved it out on the bank. There was no special fish arrow, the poorest, generally unfeathered, hunting arrow being used. No retrieving line was attached to it. The shooting of fish was more of a sport than an economically important activity.

Capturing fish with the bare hands was a frequent practice. Mohave men, all expert swimmers, dove down, one after another, groped into holes and crevices in the rocks and among the tree stumps and snags and seized fish by hand. This simple but effective operation accounted for a fair share of the fish captured and eaten by the Mohave though it often took on the form of a game. Fish stranded in shallow water by the drying up of ponds and sloughs were also collected with the bare hands.

Most fishing was carried on from the river bank or by wad-

⁵ L. Spier, Yuman Tribes of the Gila River. Chicago, 1933, p. 76.

ing out into the river or pond. The Mohave were not well provided with means of water transport and such as they had were not regularly used in fishing. On dark, moonless nights, torches were lighted to attract fish and to induce them to rise to the surface where they were easily taken by hand or with net. Bunches of dried arrowweed tied together with strips of twisted willow bark served as torches.

For transporting, fish were strung on a cord. This was provided with a pin of peeled greasewood, 12 inches long, sharpened at both ends to facilitate pushing the cord through gills. The cord of three-ply twisted mesquite-bark fiber was secured to the skewer near one end by a binding of fine string. A day's catch was often carried home in the conical fishing basket.

Fishing was almost exclusively a male occupation. Women and children had little hand therein, only occasionally helping to harvest fish from drying ponds. There appears to have been considerable variation among Mohave men as to the amount of time devoted to this pursuit. While every adult male was free to fish, some did it casually and infrequently whereas others took fishing more seriously and devoted long hours to it. No real sense of individual proprietorship over fishing places prevailed so the fish in any locality were available to the first-comer. The river's yearly overflow altered the configuration of the land so markedly that the establishment of traditional spots would have been meaningless. There were a few favored localities visited again and again but generally a fisherman did not go far outside of his own neighborhood.

The Mohave had a minimum of beliefs and rites associated with the food-quest so it is not surprising that there were few connected with fishing. No magico-religious acts for success preceded a day at the river nor were there any first-catch or thanksgiving rites. Good-luck charms were not attached to nets or other gear. A favorable dream, however, might aid in this as in any other endeavor. Before an expedition a man refrained from having sexual intercourse with his wife.

The Mohave generally consumed fish fresh, most frequently stewed. A handful of water was dashed on and the fish was

rubbed down with the hands and chopped into convenient chunks. The pieces, including head, tail, scales, guts, bones and all were thrown into a pottery cooking vessel with a pinch of salt and a little water.⁶ Commonly a handful of cornmeal was added and the mixture was boiled over a slow open fire for several hours. The stew (*atši suivi*) was stirred with three peeled willow rods, each about 30 inches long and tied together in the middle, and tasted from time to time to see if it was ready. When cooked, it was ladled out into shallow food dishes and scooped into the mouth with two or three fingers.

Fish were also broiled in the ashes of an open fire (*atši ahan*). Each was cut along its belly and the intestines removed. Then it was laid in hot ashes, sometimes being entirely covered and turned several times so as to broil both sides evenly. This was a slow method, normally taking three or four hours. When crisp, the fish were eaten with the fingers, bite-size pieces being broken off and conveyed to the mouth.

There were few restrictions upon the eating of fish. Children were not allowed to consume their flesh because it was "... too fat for them and they would have big bellies if they ate it." A menstruant customarily avoided this food as well as meat though this does not appear to have been a strict taboo.

That part of a day's catch not required for immediate consumption was dried and stored. The fish were split lengthwise down the back, gutted and the flanks spread. Heads and tails were not removed. They were placed open on the roof of the brush-thatched, flat-topped shade and sun-dried for several days. Smoking or salting was unknown. The dried fish were not kept for long, perhaps only for a week or two. It is probable that such soft flesh could not be successfully preserved for extended storage.

It is difficult to evaluate the significance of fishing in the subsistence pattern of the Mohave. On the whole it appears to have been a secondary activity. By far the greater part of Mohave diet was vegetarian, obtained from cultivated as well as wild plants. Fish was a common food but only a supplement-

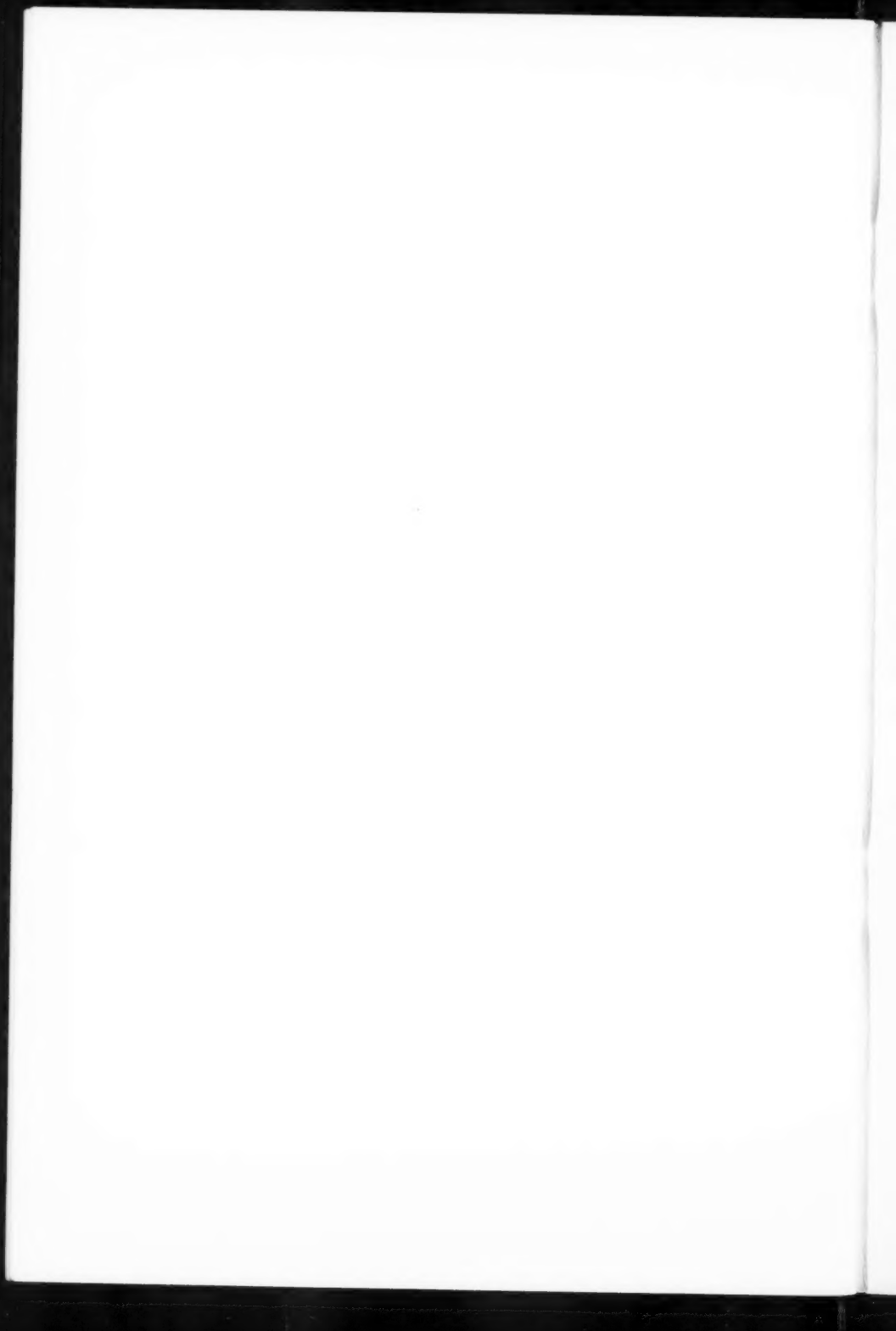
⁶ Occasionally the entrails were removed and cooked separately.

ary one, not a primary staple. Certainly fish furnished the main flesh diet as hunting was of minor importance with rabbits alone contributing significantly to the food supply.⁷

Though fish were taken during almost any month of the year, the amount of this food varied markedly with the seasons. Opportunities for making a good catch were best in the late summer and early fall when the river was retreating from its flood leaving the fish trapped in land-locked bodies of water. This was also the season of abundant plant foods. When needed most to supplement the dwindling stores of food during the late winter and spring, fish were least plentiful.

⁷ K. M. Stewart, Mohave Hunting, *The Masterkey*, vol. 21, no. 1, 1947, pp. 80-84.





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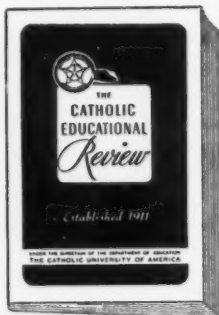
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